2/17/04 - 01653

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
6506 HAMPTON BLVD
NORFOLK VA 23508-1278

TELEPHONE NO:
(757) 322-4795

IN REPLY REFER TO:
5090
EV23DO:EVS
FEB 17 2004

WVDEP Office of Environmental Remediation
Superfund Group
Attn: Mr. Thomas Bass
1356 Hansford St.
Charleston, WV 25301

Subject: Response to WVDEP Comments on Draft Site 11 Remedial Investigation for Allegany Ballistics Laboratory, Rocket Center, West Virginia

Dear Mr. Bass:

This letter provides to you the Navy's response to your comments provided in your letter of 26 November 2003 on our Draft Site 11 Remedial Investigation, Allegany Ballistics Laboratory, Rocket Center, West Virginia, November 2002. Our response to comments is attached.

After incorporation of yours and EPA's comments we will issue the document as final. Please provide us with an acceptance letter at your earliest convenience.

If you have any questions concerning this issue, please contact me at (757) 322-4795.

Sincerely,

D. T. O'CONNOR, P.E.
Remedial Project Manager
Installation Restoration Section
(Carribean and Other)
Environmental Programs Branch
Environmental Division
By direction of the Commander

Enclosure

Copy to:
EPA Region III (Mr. Todd Richardson)
NAVSEA (Mr. John Aubert, Mr. Lou Williams)
NAVSEA ABL (Mr. Dave McBride)
CH2M Hill (Mr. Steve Glennie)
Administrative Record File (Allegany Ballistics Laboratory, WV)

Response to Comments
Draft Remedial Investigation Report for Site 11 – Former Production Well "F" for the Allegany Ballistics Laboratory Superfund Site, Rocket Center, West Virginia Dated November 2002

This document responds to comments from the West Virginia Department of Environmental Protection (letter dated 26 November 2003) on the *Draft Remedial Investigation Report for Site 11 – Former Production Well "F"* for the Allegany Ballistics Laboratory Superfund Site Rocket Center, West Virginia (November 2002).

1. Page 2-2; section 2.2 Previous Investigations and Removal Actions: The discussion merges two distinct actions. In the late 1980s the boiler house and the above ground fuel storage tanks were removed along with the 1994 removal of the building concrete pads and oil pit. During the 1994 Hercules removal of the concrete building pad the facility encountered the well casing of F-Well. A Hercules representative using field techniques evaluated the depth of the well. The measuring device when retrieved contained an oily substance. The area was turned over to the CERCLA program due to the probable timeframe of contamination. During the 1994 action Hercules removed soil impacted with petroleum adjacent to F-Well and the oil pit. Please clarify the text.

Response: The text will be clarified as requested.

2. Page 2-3; first paragraph; The discussion identifies it is believed the contaminated soil has been removed in 1994. Around late 1994 or 1995 Hercules conducted a limited action at the former oil pit and above ground storage tank area. Confirmation samples were collected by Hercules and the data provided to the Navy, WVDEP, and EPA. The first set of confirmation samples indicated an elevated level of TPH and additional soil was removed and a second set of samples collected. The site was turned over to the CERCLA program around that time frame due to the contamination found in F-Well.

Response: The text will be clarified as requested.

3. Page 2-3; section 2.2.2.3 Alluvial Groundwater: The discussion is correct, orginally the monitoring wells were constructed as temporary piezometers. However, the discussion should continue and identify that an additional field event was conducted to convert the temporary piezometers to permanent monitoring wells.

Response: The text will be clarified as requested.

4. Page 2-4; section 2.2.2.4 Bedrock Groundwater/F-Well Investigation: The March 1994 date may be incorrect. The data identified on the monitoring well video is March 1995.

Response: The text will be revised to state the correct date, which is March 1995.

5. Page 2-4; section 2.2.2.4 Bedrock Groundwater/F-Well Investigation: The text identifies clay-like blockage was encountered at 45 feet below ground surface. The blockage was in bedrock and based on physical examination with the down hole camera it appeared to be a bridge from a segment well bore from the bedrock side wall. Please provide analysis of the clay material.

Response: The field activities associated with clearing this blockage were described in a technical memorandum dated March 26, 1995. This memorandum states that, "The obstruction appeared to be of soil or similar material that could be removed by reaming the hole with a 7 7/8-inch diameter drill bit." The material could not be recovered and therefore no samples were obtained of the material.

6. Page 2-4; section 2.2.2.4 Bedrock Groundwater/F-Well Investigation; third paragraph; The discussion identifies packer sampling was to be performed. However, this task was not attempted due to the high levels of DNAPLs encountered in the well and the potential damage to the packers. See page 2-2 paragraph four of the Advanced Site Inspection of Site 11 at Allegany Ballistics Laboratory 1996. The discussion provide Advanced Site Inspection should include in this report.

Response: The discussion from the Advanced Site Inspection will be included as requested.

7. Page 2-4; section 2.2.2.4 Bedrock Groundwater/F-Well Investigation; fifth paragraph: The discussion should be clarified. As written the discussion leaves the reader with the impression F-Well was purged. There was an attempt to purge the well; however, the pump failed due to the flowing sands that were encountered at F-Well. Please clarify the text.

Response: The text will be clarified as requested.

8. Page 3.2; section 3.3 Monitoring Well Installation: The discussion is incorrect. The temporary piezometers did not meet the construction requirement for a permanent monitoring well. The construction is similar with the exception of the protective cover pipe and the ground surface seal. See comment #3.

Response: The text will be corrected as requested.

9. Upon review of the groundwater data presented in Table 5-1, it is clear that the text does not explain the inconsistencies observed in the data. For example, monitoring well 11GW02 various inorganic concentrations fluctuate two thousand times the lowest reported concentration. The filter (dissolved) sample concentrations exceed the reported totals analysis. This is unusual and should be clarified. Various metals exhibit the same characteristics described above in additional wells. This does question the validity of the data. In addition, additional data collection should be considered at this site and the risk assessment re-evaluated. Until these inconsistencies can be clarified and explained, the validity of the risk assessment is in question. Therefore, the conclusion drawn from the information contained in this risk assessment may be inaccurate or not applicable.

Response: The text will be revised to more fully describe the variations in the inorganic concentrations observed in groundwater.

It is important to note that the apparent large-magnitude fluctuations noted in the comment are the result of some data from the 1995 Advanced Site Inspection being incorrectly reported in Table 5-1, not from actual large-magnitude fluctuations in constituent concentrations. The metals data for samples HCW-TP2-1 through HCW-TP6-1 were reported in Table 5-1 in incorrect units and should be lowered by a factor of 1,000 to make the concentrations consistent with the other tabulated results. When the adjustment is made, the resulting concentrations are consistent with those detected during the more recent sampling events. This error in Table 5-1 will be corrected in the next version of this report.

Although there are some variations in the inorganics concentrations over time, they are attributed to the natural fluctuations of the Site aquifer. The groundwater sampling program was designed to assess this variability and therefore comprised four seasonal sampling events conducted during 2000 and 2001 (plus an additional event in 1995). During some sampling periods, the aquifers were under drought conditions. These drought conditions appear to have generally increased the concentrations of inorganics in the groundwater. The human health risk assessment accounts for this natural variation by: (1) evaluating the four most recent sets of groundwater results and using the maximum detected concentrations (worst case) in selecting chemicals of potential concern, and (2) by using the most contaminated monitoring wells or groups of monitoring wells in determining of exposure point concentrations, providing a conservative estimate of risk.

It is noted that 89 dissolved inorganics results (out of about 790 analyses) were reported at concentrations greater than the corresponding total inorganics results. However, as shown in Figure 1 most of these results (i.e., 72 of the 89) are within the acceptable range of analytical accuracy (+/- 20 percent, as presented in the project QAPP). In addition, the total and dissolved fractions represent physically different samples, and may themselves represent the normal variations in constituent concentrations.

Because the vast majority of the total and dissolved analytical results are within the acceptable range of analytical accuracy, because trend data have been gathered that assess both seasonal and precipitation variations, and because the risk assessment utilized the highest concentrations to represent "worst-case" scenarios, both the data quality and the conclusions drawn by the risk assessment are considered valid.

10. Table 5-6 should identify an accepted inorganic background range.

Response: Table 5-6 will be modified to include the requested information.

Figure 1: Dissolved Vs Total Metals Results for Site 11 Groundwater